

SEQUENCE LISTING

<110> JAPAN SCIENCE AND TECHNOLOGY CORPORATION
OKAZAKI, Tsuneko
IKENO, Masashi
ITOU, Toshihide
SUZUKI, Nobukata

<120> Mammalian artificial chromosome

<130> P0203102

<150> JP P2002-258114

<151> 2002-09-03

<150> JP P2002-338865

<151> 2002-11-22

<160> 23

<170> PatentIn version 3.1

<210> 1

<211> 17

<212> DNA

<213> Homo sapiens

<220>

<221> source

<222> (1)..(17)

<223> Human chromosome centromere region

<220>

<221> misc_feature

<222> (1)..(1)

<223> n stands for any base

<220>

<221> misc_feature

<222> (6)..(9)

<223> n stands for any base

<220>

<221> misc_feature

<222> (11)..(12)

<223> n stands for any base

<220>

<221> misc_feature

<222> (17)..(17)

<223> n stands for any base

<400> 1

nttcgnnnna nncgggn

<210> 2
 <211> 17
 <212> DNA
 <213> Homo sapiens

<220>
 <221> source
 <222> (1)..(17)
 <223> Human chromosome 21 centromere region

<220>
 <221> misc_feature
 <222> (1)..(1)
 <223> n stands for any base

<400> 2
 nttcgttgga aacggga

17

<210> 3
 <211> 1868
 <212> DNA
 <213> Homo sapiens

<220>
 <221> source
 <222> (1)..(1868)
 <223> Human chromosome 21 centromere region

<400> 3
 aattcaaata aaaggtagac agcagcattc tcagaaattt ctttctgatg tctgcattca 60
 actcatagag ttgaagattg cttttcatag agcagggttg aaacactctt tctggagtat 120
 ctggatgtgg acatttggag cgctttgatg cctacggttg aaaagtaa atcttccata 180
 aaaacgagac agaaggattc tcagaaacaa gtttgtgatg tgtgtactca gctaacagag 240
 tggaaccttt ctttttacag agcagctttg aaactctatt tttgtggatt ctgcaaattg 300
 atatttagat tgctttaacg atatcgttgg aaaagggaat atcgtcatac aaaatctaga 360
 cagaagcatt ctcacaaact tctttgtgat gtgtgtcctc aactaacaga gttgaacctt 420
 tcttttgatg cagcagtttg gaaacactct tttttagtaa actgtaagtg gatatttgga 480
 tagctctaac gatttcgttg gaaacgggaa tatcatcatc taaaatctag acagaagcac 540
 tattagaaac tacttgggtga tatctgcatt caagtcacag agttgaacat tcccttactt 600
 tgagcacgtt tgaaacactc ttttgggaaga atctggaagt ggacatttgg agcgctttga 660
 ctgcctttgt tgaaaaggaa acgtcttcca ataaaagcca gacagaagca ttctcagaaa 720
 cttgttcgtg atgtgtgtac tcaactaaaa gagttgaacc tttctattga tagagcagtt 780
 ttgaaacact ctttttgggtg attctgcaag tggatatttg gattgctttg aggatttcgt 840

| | |
|--|------|
| tggaagcggg aattcgtata aaaactagac agcagcattc ccagaaattt ctttcggata | 900 |
| tttccattca actcatagag atgaacatgg cctttcatag agcaggtttg aaacactctt | 960 |
| tttgtagttt gtggaagtgg acatttcgat cgccttgacg cctacggtga aaaaggaaat | 1020 |
| atcttcccat aaaaatagac agaagcattc tcagaaactt gttggtgata tgtgtctcaa | 1080 |
| ctaacagagt tgaactttgc cattgataga gagcagtttt gaaacactct ttttgtggaa | 1140 |
| tctgcaagtg gatattttgga tagcttggag gatttcgttg gaagcgggaa ttcaaataaa | 1200 |
| aggtagacag cagcattctc agaaatttct ttctgatgac tgcattcaac tcatagagtt | 1260 |
| gaacattccc tttcatagag caggtttgaa acactctttc tggagtatct ggatgtggac | 1320 |
| atttgagcgc ctttgatgcc tatggtgaaa aagtaaatat cttcccataa aaacgagaca | 1380 |
| gaaggattct gagaaacaag tttgtgatgt gtgtactcag ctaacagagt ggaacctctc | 1440 |
| ttttgatgca gcagtttggg aacactcttt ttgtagaaac tgtaagtggg tatttggata | 1500 |
| gctctaataa tttcgttggg aacgggaata tcatcatcta aaatctagac agaagccctc | 1560 |
| tcagaaacta ctttgtgata tctgcattca agtcacagag ttgaacattc gctttcttag | 1620 |
| agcacgttgg aaacactctt tttgtagtgt ctggaagtgg acatttggag cgctttgatg | 1680 |
| cctttggtga aaaagggaat gtcttcccat aaaaactaga cagaagcatt ctcagaaact | 1740 |
| tgtttttgat gtgtgtacc agccaaagga gttgaacatt tctattgata gagcagtttt | 1800 |
| gaaacactct ttttgtggaa aatgcaggtg gatatttggg tagcttggag gatttcgttg | 1860 |
| gaagcggg | 1868 |

<210> 4

<211> 8286

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Probe for an arm region of YAC

<400> 4

| | |
|---|-----|
| ttctcatggt tgacagctta tcatcgataa gctttaatgc ggtagtttat cacagttaaa | 60 |
| ttgctaacgc agtcaggcac cgtgtatgaa atctaacaat gcgctcatcg tcatcctcgg | 120 |
| caccgtcacc ctggatgctg taggcatagg cttggttatg ccggtactgc cgggcctctt | 180 |
| gcgggatatc gtccattccg acagcatcgc cagtcactat ggcgtgctgc tagcgctata | 240 |
| tgcgttgatg caatttctat gcgcaccgtt tctcggagca ctgtccgacc gctttggccg | 300 |
| ccgcccagtc ctgctcgctt cgctacttgg agccactatc gactacgcca tcatggcgac | 360 |
| cacaccgctc ctgtggatca attcccttta gtataaattt cactctgaac catcttggaa | 420 |
| ggaccggtaa ttatttcaaa tctctttttc aattgtatat gtgttatggt atgtagtata | 480 |

| | | | | | | |
|------------|-------------|------------|------------|------------|-------------|------|
| ctctttcttc | aacaattaaa | tactctcggt | agccaagttg | gtttaaggcg | caagacttta | 540 |
| atztatcact | acggaattcc | gtaatcttga | gatcggggcg | tcgatcgccc | cgggagattt | 600 |
| ttttgttttt | tatgtcttcc | attcacttcc | cagacttgca | agttgaaata | tttctttcaa | 660 |
| gggaattgat | cctctacgcc | ggacgcatcg | tggccggcat | caccggcgcc | acaggtgcgg | 720 |
| ttgctggcgc | ctatatcgcc | gacatcaccc | atggggaaga | tcgggctcgc | cacttcgggc | 780 |
| tcatgagcgc | ttgtttcggc | gtgggtatgg | tggcaggccc | cgtggccggg | ggactgttgg | 840 |
| gcgccatctc | cttgcattga | ccattccttg | cggcggcggt | gctcaacggc | ctcaacctac | 900 |
| tactgggctg | cttcctaata | caggagtcgc | ataagggaga | gcgtcgaccg | atgcccttga | 960 |
| gagccttcaa | cccagtcagc | tccttcgggt | gggcgcgggg | catgactatc | gtcgccgcac | 1020 |
| ttatgactgt | cttctttatc | atgcaactcg | taggacaggt | gccggcagcg | ctctgggtca | 1080 |
| ttttcggcga | ggaccgcttt | cgctggagcg | cgacgatgat | cggcctgtcg | cttgcggtat | 1140 |
| tcggaatctt | gcacgccctc | gctcaagcct | tcgtcactgg | tcccgccacc | aaacgtttcg | 1200 |
| gcgagaagca | ggccattatc | gccggcatgg | cggccgacgc | gctgggctac | gtcttgctgg | 1260 |
| cgttcgcgac | gcgaggctgg | atggccttcc | ccattatgat | tcttctcgct | tccggcggca | 1320 |
| tcgggatgcc | cgcgttgcag | gccatgctgt | ccaggcaggt | agatgacgac | catcaggggac | 1380 |
| agcttcaagg | atcgctcgcg | gctcttacca | gcctaacttc | gatcactgga | ccgctgatcg | 1440 |
| tcacggcgat | ttatgccgcc | tcggcgagca | catggaacgg | gttggcatgg | attgtaggcg | 1500 |
| ccgccctata | ccttgtctgc | ctcccccgct | tgcgtcgcg | tgcatggagc | cgggccacct | 1560 |
| cgacctgaat | ggaagccggc | ggcacctcgc | taacggattc | accactccaa | gaattggagc | 1620 |
| caatcaattc | ttgcggagaa | ctgtgaatgc | gcaaaccaac | ccttggcaga | acatatccat | 1680 |
| cgcgcccgcc | atctccagca | gccgcacgcg | gcgcatcccc | cccccccttt | caattcaatt | 1740 |
| catcattttt | tttttattct | tttttttgat | ttcggtttct | ttgaaatttt | tttgattcgg | 1800 |
| taatctccga | acagaaggaa | gaacgaagga | aggagcacag | acttagattg | gtatatatac | 1860 |
| gcatatgtag | tggtgaagaa | acatgaaatt | gcccagtatt | cttaacccaa | ctgcacagaa | 1920 |
| caaaaacctg | caggaaacga | agataaatca | tgctgaaagc | tacatataag | gaacgtgctg | 1980 |
| ctactcatcc | tagtcctgtt | gctgccaagc | tatttaatat | catgcacgaa | aagcaaacaa | 2040 |
| acttgtgtgc | ttcattggat | gttcgtacca | ccaaggaatt | actggagtta | gttgaagcat | 2100 |
| taggtcccaa | aattttgttta | ctaaaaacac | atgtggatat | cttgactgat | ttttccatgg | 2160 |
| agggcacagt | taagccgcta | aaggcattat | ccgccaagta | caatttttta | ctcttcgaag | 2220 |
| acagaaaatt | tgctgacatt | ggtaatacag | tcaaattgca | gtactctgcg | ggtgtataca | 2280 |

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|------|
| gaatagcaga | atgggcagac | attacgaatg | cacacggtgt | ggtgggcccc | ggtattgtta | 2340 |
| gcggtttgaa | gcaggcggca | gaagaagtaa | caaaggaacc | tagaggcctt | ttgatgttag | 2400 |
| cagaattgtc | atgcaagggc | tccctatcta | ctggagaata | tactaagggt | actgttgaca | 2460 |
| ttgcgaagag | cgacaaagat | tttgttatcg | gctttattgc | tcaaagagac | atgggtggaa | 2520 |
| gagatgaagg | ttacgattgg | ttgattatga | cacccggtgt | gggttttagat | gacaagggag | 2580 |
| acgcattggg | tcaacagtat | agaaccgtgg | atgatgtggt | ctctacagga | tctgacatta | 2640 |
| ttattgttgg | aagaggacta | tttgcaaagg | gaagggatgc | taaggtagag | ggtgaacgtt | 2700 |
| acagaaaagc | aggctgggaa | gcatatttga | gaagatgcgg | ccagcaaaac | taaaaaactg | 2760 |
| tattataagt | aaatgcatgt | atactaaact | cacaaattag | agcttcaatt | taattatatc | 2820 |
| agttattact | cgggcgtaat | gattttttata | atgacgaaaa | aaaaaaaaatt | ggaaagaaaa | 2880 |
| gggggggggg | gcagcgttgg | gtcctggcca | cgggtgcgca | tgatcgtgct | cctgtcgttg | 2940 |
| aggacccggc | taggctggcg | gggttgcctt | actggttagc | agaatgaatc | accgatacgc | 3000 |
| gagcgaacgt | gaagcgactg | ctgctgcaaa | acgtctgcga | cctgagcaac | aacatgaatg | 3060 |
| gtcttcggtt | tccgtgtttc | gtaaagtctg | gaaacgcgga | agtcagcgcc | ctgcaccatt | 3120 |
| atgttccgga | tctgcatcgc | aggatgctgc | tggctaccct | gtggaacacc | tacatctgta | 3180 |
| ttaacgaagc | gctggcattg | accctgagtg | atttttctct | gtccccgccc | catccatacc | 3240 |
| gccagttggt | taccctcaca | acgttccagt | aaccgggcat | gttcatcatc | agtaaccctg | 3300 |
| atcgtgagca | tcctctctcg | tttcatcggt | atcattaccc | ccatgaacag | aaattcccc | 3360 |
| ttacacggag | gcatcaagtg | accaaacagg | aaaaaaccgc | ccttaacatg | gcccgtttta | 3420 |
| tcagaagcca | gacattaacg | cttctggaga | aactcaacga | gctggacgcg | gatgaacagg | 3480 |
| cagacatctg | tgaatcgctt | cacgaccacg | ctgatgagct | ttaccgcagc | caagcttatc | 3540 |
| cctcgagggc | tgctcgcgc | gtttcgggtg | tgacggtgaa | aacctctgac | acatgcagct | 3600 |
| cccgagagcg | gtcacagctt | gtctgtaagc | ggatgccggg | agcagacaag | cccgtcaggg | 3660 |
| cgcgtcagcg | ggtgttggcg | ggtgtcgggg | cgcagccatg | accagtcac | gtagcgatag | 3720 |
| cggagtgtat | actggcttaa | ctatgcggca | tcagagcaga | ttgtactgag | agtgcaccat | 3780 |
| atgcggtgtg | aaataccgca | cagatgcgta | aggagaaaat | accgcatcag | gcgctcttcc | 3840 |
| gcttcctcgc | tactgactc | gctgcgctcg | gtcgttcggc | tgcggcgagc | ggtatcagct | 3900 |
| cactcaaagg | cggtaatacg | gttatccaca | gaatcagggg | ataacgcagg | aaagaacatg | 3960 |
| tgagcaaaaag | gccagcaaaa | ggccaggaac | cgtaaaaagg | ccgcgttgct | ggcgtttttc | 4020 |
| cataggctcc | gccccctga | cgagcatcac | aaaaatcgac | gctcaagtca | gagggtggcga | 4080 |
| aacccgacag | gactataaag | ataccaggcg | tttccccctg | gaagctccct | cgtgcgctct | 4140 |

| | | | | | | |
|------------|-------------|------------|-------------|------------|-------------|------|
| cctgttccga | ccctgccgct | taccggatac | ctgtccgcct | ttctcccttc | gggaagcgtg | 4200 |
| gcgctttctc | atagctcacg | ctgtaggat | ctcagttcgg | tgtaggtcgt | tcgctccaag | 4260 |
| ctgggctgtg | tgcacgaacc | ccccgttcag | cccgaccgct | gcgccttata | cggtaactat | 4320 |
| cgtcttgagt | ccaacccggt | aagacacgac | ttatcgccac | tggcagcagc | cactggtaac | 4380 |
| aggattagca | gagcgaggta | tgtaggcggg | gctacagagt | tcttgaagtg | gtggcctaac | 4440 |
| tacggctaca | ctagaaggac | agtatttggg | atctgcgctc | tgctgaagcc | agttaccttc | 4500 |
| ggaaaaagag | ttggtagctc | ttgatccggc | aaacaaacca | ccgctggtag | cgggtggtttt | 4560 |
| tttgtttgca | agcagcagat | tacgcgcaga | aaaaaaggat | ctcaagaaga | tcctttgatc | 4620 |
| ttttctacgg | ggctctgacgc | tcagtggaac | gaaaactcac | gttaagggat | tttggctcatg | 4680 |
| agattatcaa | aaaggatctt | cacctagatc | cttttaaatt | aaaaatgaag | ttttaaatca | 4740 |
| atctaaagta | tatatgagta | aacttgggtc | gacagttacc | aatgcttaat | cagtgaggca | 4800 |
| cctatctcag | cgatctgtct | atttcgttca | tccatagttg | cctgactccc | cgctcgtgtag | 4860 |
| ataactacga | tacgggaggg | cttaccatct | ggccccagtg | ctgcaatgat | accgcgagac | 4920 |
| ccacgctcac | cggctccaga | tttatcagca | ataaaccagc | cagccggaag | ggccgagcgc | 4980 |
| agaagtggtc | ctgcaacttt | atccgcctcc | atccagtcta | ttaattgttg | ccgggaagct | 5040 |
| agagtaagta | gttcgccagt | taatagtttg | cgcaacgttg | ttgccattgc | tgcaggcatc | 5100 |
| gtggtgtcac | gctcgtcgtt | tggtatggct | tcattcagct | ccggttccca | acgatcaagg | 5160 |
| cgagttacat | gatcccccat | gttgtgcaaa | aaagcgggta | gtcccttcgg | tcctccgatc | 5220 |
| gttgtcagaa | gtaagtggc | cgcagtgtta | tcactcatgg | ttatggcagc | actgcataat | 5280 |
| tctcttactg | tcatgccatc | cgtaagatgc | ttttctgtga | ctggtgagta | ctcaaccaag | 5340 |
| tcattctgag | aatagtgtat | gcggcgaccg | agttgctctt | gcccggcgtc | aacacgggat | 5400 |
| aataccgcgc | cacatagcag | aactttaaaa | gtgctcatca | ttggaaaacg | ttcttcgggg | 5460 |
| cgaaaactct | caaggatctt | accgctgttg | agatccagtt | cgatgtaacc | cactcgtgca | 5520 |
| cccaactgat | cttcagcatc | ttttactttc | accagcgttt | ctgggtgagc | aaaaacagga | 5580 |
| aggcaaaatg | ccgcaaaaaa | gggaataagg | gcgacacgga | aatgttgaat | actcatactc | 5640 |
| ttcctttttc | aatattattg | aagcatttat | caggggttatt | gtctcatgag | cggatacata | 5700 |
| tttgaatgta | tttagaaaaa | taaacaaata | ggggttccgc | gcacatttcc | ccgaaaagtg | 5760 |
| ccacctgacg | tctaagaaac | cattattatc | atgacattaa | cctataaaaa | taggcgtatc | 5820 |
| acgaggccct | ttcgtcttca | agaattaatt | cggtcgaaaa | aagaaaagga | gagggccaag | 5880 |
| agggagggga | ttggtgacta | ttgagcacgt | gagtatacgt | gattaagcac | acaaaggcag | 5940 |

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|------|
| cttggagtat | gtctgttatt | aatttcacag | gtagttctgg | tccattggtg | aaagtttgcg | 6000 |
| gcttgacag | cacagaggcc | gcagaatgtg | ctctagattc | cgatgctgac | ttgctgggta | 6060 |
| ttatatgtgt | gccaataga | aagagaacaa | ttgacccggt | tattgcaagg | aaaatttcaa | 6120 |
| gtcttgtaaa | agcatataaa | aatagttcag | gcactccgaa | atacttggtt | ggcgtgtttc | 6180 |
| gtaatcaacc | taaggaggat | gttttggctc | tggatcaatga | ttacggcatt | gatatcgtcc | 6240 |
| aactgcatgg | agatgagtcg | tggcaagaat | accaagagtt | cctcggtttg | ccagttatta | 6300 |
| aaagactcgt | atttccaaaa | gactgcaaca | tactactcag | tgcagcttca | cagaaacctc | 6360 |
| attcgtttat | tcccttgttt | gattcagaag | caggtgggac | aggtgaactt | ttggattgga | 6420 |
| actcgatttc | tgactggggt | ggaaggcaag | agagccccga | aagcttacat | tttatgttag | 6480 |
| ctgggtggact | gacgccagaa | aatgttgggt | atgcgcttag | attaaatggc | gttattgggtg | 6540 |
| ttgatgtaag | cggaggtgtg | gagacaaatg | gtgtaaaaga | ctctaacaaa | atagcaaatt | 6600 |
| tcgtcaaaaa | tgctaagaaa | taggttatta | ctgagtagta | tttatttaag | tattgtttgt | 6660 |
| gcacttgcct | gcaggccttt | tgaaaagcaa | gcataaaaga | tctaaacata | aaatctgtaa | 6720 |
| aataacaaga | tgtaaagata | atgctaaatc | atttggcttt | ttgattgatt | gtacaggaaa | 6780 |
| atatacatcg | caggggggtg | acttttacca | tttcaccgca | atggaatcaa | acttgttgaa | 6840 |
| gagaatgttc | acaggcgcat | acgctacaat | gacccgattc | ttgctagcct | tttctcggtc | 6900 |
| ttgcaaacaa | ccgccggcag | cttagtatat | aaatacacat | gtacatacct | ctctccgtat | 6960 |
| cctcgtaatc | attttcttgt | atttatcgtc | tttctgctgt | aaaaacttta | tcacacttat | 7020 |
| ctcaaataca | cttattaacc | gcttttacta | ttatcttcta | cgctgacagt | aatatcaaac | 7080 |
| agtgacacat | attaaacaca | gtggtttctt | tgcataaaca | ccatcagcct | caagtcgtca | 7140 |
| agtaaagatt | tcgtgttcat | gcagatagat | aacaatctat | atgttgataa | ttagcgttgc | 7200 |
| ctcatcaatg | cgagatccgt | ttaaccggac | cctagtgcac | ttacccacg | ttcgggtccac | 7260 |
| tgtgtgccga | acatgctcct | tcactatttt | aacatgtgga | attaattcta | aatcctcttt | 7320 |
| atatgatctg | ccgatagata | gttctaagtc | attgaggttc | atcaacaatt | ggattttctg | 7380 |
| tttactcgac | ttcaggtaaa | tgaaatgaga | tgatacttgc | ttatctcata | gttaactcta | 7440 |
| agaggtgata | cttattttact | gtaaaaactgt | gacgataaaa | ccggaaggaa | gaataagaaa | 7500 |
| actcgaactg | atctataatg | cctattttct | gtaaagagtt | taagctatga | aagcctcggc | 7560 |
| attttggccg | ctcctaggta | gtgctttttt | tccaaggaca | aaacagtttc | tttttcttga | 7620 |
| gcagggtttta | tgtttcggta | atcataaaca | ataaataaat | tatttcattt | atgtttaaaa | 7680 |
| ataaaaaata | aaaaagtatt | ttaaattttt | aaaaaagttg | attataagca | tgtgaccttt | 7740 |
| tgcaagcaat | taaattttgc | aattttgtgat | tttaggcaaa | agttacaatt | tctggctcgt | 7800 |

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|------|
| gtaatatatg | tatgctaaaag | tgaacttttta | caaagtcgat | atggacttag | tcaaaagaaa | 7860 |
| ttttcttaaa | aatatatagc | actagccaat | ttagcacttc | tttatgagat | atattataga | 7920 |
| ctttattaag | ccagatttgt | gtattatatg | tatttacccg | gcgaatcatg | gacatacatt | 7980 |
| ctgaaatagg | taatattctc | tatggtgaga | cagcatagat | aacctaggat | acaagttaaa | 8040 |
| agctagtact | gttttgagc | aatttttttc | ttttttataa | gaatgttacc | acctaaataa | 8100 |
| gttataaagt | caatagttaa | gtttgatatt | tgattgtaaa | ataccgtaat | atatttgcat | 8160 |
| gatcaaaagg | ctcaatgttg | actagccagc | atgtcaacca | ctatattgat | caccgatata | 8220 |
| tggacttcca | caccaactag | taatatgaca | ataaattcaa | gatattcttc | atgagaatgg | 8280 |
| cccaga | | | | | | 8286 |

<210> 5
 <211> 3631
 <212> DNA
 <213> Homo sapiens

| | | | | | | |
|-------------|------------|------------|------------|-------------|-------------|------|
| <400> 5 | | | | | | |
| aagaccagat | agtacagggc | ctggctacaa | aaatacaagc | ttttactatg | ctattgcaat | 60 |
| actaaacgat | aagcattagg | atgttaagtg | actcaggaaa | taagattttg | ggaaaaagta | 120 |
| atctgcttat | gtgcacaaaa | tggattcaag | tttgagata | aaataaaata | tggatgatga | 180 |
| ttcaagggga | cagatacaat | ggttcaaacc | caagaggagc | agtgagtctg | tggaattttg | 240 |
| aaggatggac | aaaggtgggg | tgagaaagac | atagtattcg | acctgactgt | gggagatgag | 300 |
| aaggaagaag | gaggtgataa | atgactgaaa | gctcccagac | tgggtgaagat | aacaggagga | 360 |
| aaccatgcac | ttgaccctgg | tgactctcat | gtgtgaaggg | tagagggata | ttaacagatt | 420 |
| tacttttttag | gaagtgctag | attggtcagg | gagttttgac | cttcaggctc | tgtgtctttc | 480 |
| atatcaagga | acctttgcat | tttccaagtt | agagtgccat | atatttgcaa | atataacttt | 540 |
| attagtaatt | ttatagtgtc | ctcacattga | tcagactttt | tcctgtgaat | tacttttgaa | 600 |
| tttggctgta | tatatccaga | atatgggaga | gagacaaata | attattgtag | ttgcaggcta | 660 |
| tcaacaatac | tggctctctc | gagccttata | acctttcaat | atgccccata | aacagagtaa | 720 |
| acagggatta | ttcatggcac | taaatatttt | cacctaggtc | agtcaacaaa | tggaggcaat | 780 |
| gtgcattttt | tgatacatat | ttttatatat | ttatggggca | tgtgatactt | acatgcctag | 840 |
| aacatgtgac | tgattaagtc | tagatattta | ggatatccat | tactttgagc | atattatcatt | 900 |
| tctatgtatt | gagaaaattt | caaactctca | tttctgacca | ttttgaaata | tataataaat | 960 |
| agtaattaac | tatagtcacc | ctactcaaat | atcaacatta | taaactaact | aatccttctt | 1020 |
| tccacttttt | taccaaccaa | catctcttaa | atcccctgcc | atacacatca | cacatttttc | 1080 |

| | | | | | | |
|------------|------------|-------------|-------------|-------------|-------------|------|
| agctctgata | actatcattc | tactctcata | ccaccatgag | accacttttt | tagctccaca | 1140 |
| gatgaataaa | aacatgtgat | atttgacttt | ctgtatctgg | cttattttat | tatctatctc | 1200 |
| tttggcatac | caagagtttg | tttttgttct | gcttcagggc | tttcaattaa | cataatgacc | 1260 |
| tctggttcca | tccatgttgc | tacaaatgac | aagatttcat | tctttttcat | ggcaaaatag | 1320 |
| tactgtgcaa | aaaatacaat | tttttaatcc | gttcactctgt | tgatagacac | ttaggttgat | 1380 |
| cccaaacctt | aactattgtg | aataggtgct | tcaataaaca | tgagtgtaat | gtgtccattg | 1440 |
| gatatactga | tttcctttct | tttggataaa | taaccactag | tgagattgct | ggattgtatg | 1500 |
| atagttctgt | ttttagttta | ttgagaaatc | ttcatactgt | tttccataat | ggttgtaacta | 1560 |
| ttttacattc | ccaccaacag | tgtgtaagaa | agagttccct | tttctccata | tcctcacaag | 1620 |
| gatctgttat | tttttgtctt | ttttgttaat | agcattttta | ctagagtaag | tagatatctc | 1680 |
| attgtagttt | tgatttgcat | ttccctgac | attagtgatg | ttgagatttt | ttcatatggt | 1740 |
| tgttggtcat | ttgtatatct | ttttctgaga | ttgtctgttc | atgtccttat | cctactttta | 1800 |
| ttgggattgt | tgttattttc | ttgataatca | ttgtgtcatt | ttagagcctg | gatattattc | 1860 |
| ttttgtcaga | tgtatagatt | gtgaagattt | tctcctctgt | gggttgctctg | tttattctgc | 1920 |
| agactcttcc | ttttgccatg | caaaagctct | ttagtttaat | ttagtcccag | atattttctt | 1980 |
| tgtttttatg | tgtttgcatt | tgtgttcttg | tcatgaaatc | ctttcctaag | ccaatgtgta | 2040 |
| gaagggtttt | tccgatgtta | ttttctagaa | ttgttacagt | ttcaggctta | gatttaagtc | 2100 |
| cttgatccat | cttaagttga | tttttgtata | aggtgagaga | tgaagatcca | gtttcattct | 2160 |
| cctacatgta | gcttgccagc | tatcccgact | catttgttga | atagggtgcc | ctttcccat | 2220 |
| tatgtttttg | tttgctttgt | caaagatcag | ttcggatgta | agtatttgag | tttatttctg | 2280 |
| ggttctctat | tctgttccat | tgggtccgatg | tgcctatttg | tacaccagca | tcatgctgtg | 2340 |
| tttttggtga | ctatggcctt | attgtatagt | ttgaaatgag | gtaatgtaat | gccattcaga | 2400 |
| tttgttcttt | tttttagact | tgcttgttta | ttgggtctct | ttttggttcc | ataagaattt | 2460 |
| taggattggt | ttttctagtt | ctgtgaaggc | taatggtggt | atttatggga | attgcaatgc | 2520 |
| aatttgtagg | ttgcttctgg | cattatggcc | attttcacia | tattgattct | acccatctat | 2580 |
| gagaatggca | tgtgtttcca | tttgtttgtg | tcttatatga | ttactatcag | ccgtgttttg | 2640 |
| tagttttcct | tgtagatgtc | tttcacctcc | ttgggttaggt | atatattcct | aagtttttgt | 2700 |
| tttgttttgt | tttgtttttt | gcagctattg | taaaaggggt | tgagttattg | attttattct | 2760 |
| catcttggtc | attgctggta | tgtaagaaag | caactcattg | gtgtacgtta | attttgtatc | 2820 |
| cagaaacttt | gctgaattat | tttatcagtt | ctaggggggt | ttggaggagt | cttttagagtt | 2880 |

| | | | | | | |
|------------|------------|------------|-------------|------------|-------------|------|
| ttctacatac | acaatcatat | catcagcaaa | cagtgacagt | ttgactttct | ctttaacaat | 2940 |
| ttggatgtgc | tttacttggt | tctcttgtct | gattgctctt | gctaggactt | ccagtaatat | 3000 |
| gttaaagaga | agtggtgaga | gtgggtatcc | ttgtctcatt | ccagttttca | gacagaatgc | 3060 |
| ttttaacttt | ttcccatcca | atataatggt | ggctgtgtgt | ttaccatagc | tggcttttat | 3120 |
| tacattgagg | tatgtccttt | gtaaaccgat | tttgctgagt | tttagtcata | aagtgatggt | 3180 |
| gaattttggt | gaatgcagtt | tctgtggcta | ttgagataat | cacatgattt | ttgtttccaa | 3240 |
| ttctctttat | gttgtgtatc | acacttattg | acttgcgat | gttaaaccat | ccgtgcatcc | 3300 |
| ctcgcatgaa | accacttgat | catgggtttt | gatatgccgt | gtgggatgct | attagctata | 3360 |
| ttttgtcaag | gatgttggca | tctatgttca | tcagggatat | tgatctgtag | tgtttttttt | 3420 |
| ttttggttat | gttctttccc | agttttggta | ttaaggatgat | actggcttca | tagaatgatt | 3480 |
| tagggaggat | tctctctttc | tctatcttgt | agaatactgt | caataggatt | ggatatcaatt | 3540 |
| cttctttgaa | tgtctggtag | aattcgaacg | tctcctttag | gttttctagt | ttattcatgt | 3600 |
| aaagggtgtc | atagtaacct | tgaataatct | t | | | 3631 |

<210> 6
 <211> 3386
 <212> DNA
 <213> Homo sapiens

| | |
|-------------|---|
| <400> 6 | |
| tgctaattgct | tcattacaaa cttatatcct ttaattccag atggggggcaa agtatgtcca 60 |
| gggggtgagga | acaattgaaa catttgggct ggagtagatt ttgaaagtca gctctgtgtg 120 |
| tgtgtgtgtg | tgtgtgtgtg tcagcgtgtg tttcttttaa cgtcttcagc ctacaacata 180 |
| caggggttcat | ggtgggaaga agatagcaag atttaaatta tggccagtga ctagtgcctg 240 |
| aaggggaaca | actacctgca tttaatggga aggcaaaatc tcaggctttg agggaagtta 300 |
| acataggcctt | gattctgggt ggaagctggg tgtgtagtta tctggaggcc aggctggagc 360 |
| tctcagctca | ctatgggttc atctttattg tctcctttca tctcaacagc tcctgggaaa 420 |
| tgtgctggtg | accgttttgg caatccattt cggcaaagaa ttcaccctg aggtgcaggc 480 |
| ttcctggcag | aagatgggtga ctgcagtggc cagtgccctg tcctccagat accactgagc 540 |
| ctcttgccca | tgattcagag ctttcaagga taggctttat tctgcaagca atacaaataa 600 |
| taaatctatt | ctgctgagag atcacacatg attttcttca gctctttttt ttacatcttt 660 |
| ttaaatatat | gagccacaaa gggtttatat tgagggaagt gtgtatgtgt atttctgcat 720 |
| gcctgtttgt | gtttgtggtg tgtgcatgct cctcatttat ttttatatga gatgtgcatt 780 |
| ttgatgagca | aataaaagca gtaaagacac ttgtacacgg gagttctgca agtgggagta 840 |

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|------------|------|
| aatggtgttg | gagaaatccg | gtgggaagaa | agacctctat | aggacaggac | ttctcagaaa | 900 |
| cagatgtttt | ggaagagatg | ggaaaagggt | cagtgaagac | ctgggggctg | gattgattgc | 960 |
| agctgagtag | caaggatggt | tcttaatgaa | gggaaagtgt | tccaagcttt | aggaattcaa | 1020 |
| ggttttagtca | ggtgtagcaa | ttctatttta | ttaggaggaa | tactatttct | aatggcactt | 1080 |
| agctttttcac | agcccttgtg | gatgcctaag | aaagtgaaat | taatcccatg | ccctcaagtg | 1140 |
| tgcagattgg | tcacagcatt | tcaagggaga | gacctcattg | taagactctg | ggggaggtgg | 1200 |
| ggacttaggt | gtaagaaatg | aatcagcaga | ggctcacaag | tcagcatgag | catgttatgt | 1260 |
| ctgagaaaca | gaccagcact | gtgagatcaa | aatgtagtgg | gaagaatttg | tacaacatta | 1320 |
| attggaaggt | ttacttaatg | gaatttttgt | atagttggat | gttagtgcac | ctctataagt | 1380 |
| aagagttaa | tatgatgggtg | ttacggacct | ggtgtttgtg | tctcctcaaa | attcacatgc | 1440 |
| tgaatcccca | actcccaact | gaccttatct | gtgggggagg | cttttgaaaa | gtaattaggt | 1500 |
| ttagctgagc | tcataagagc | agatcccat | cataaaatta | tttcccttat | cagaagcaga | 1560 |
| gagacaagcc | atttctcttt | cctcccgggtg | aggacacagt | gagaagtccg | ccatctgcaa | 1620 |
| tccaggaaga | gaaccctgac | cacgagtcag | ccttcagaaa | tgtgagaaaa | aactctgttg | 1680 |
| ttgaagccac | ccagtctttt | gtatttttgt | atagcacctt | acactgagta | aggcagatga | 1740 |
| agaaggagaa | aaaaataagc | ttgggttttg | agtgaactac | agaccatggt | atctcaggtt | 1800 |
| tgcaaagctc | ccctcgtccc | ctatgtttca | gcataaaata | cctactctac | tactctcatc | 1860 |
| tataagaccc | aaataataag | cctgcgccct | tctctctaac | tttgatttct | cctattttta | 1920 |
| cttcaacatg | ctttactcta | gccttgtaat | gtctttacac | acagtgaaat | gtaaagtctt | 1980 |
| ttattctttt | tttctttctt | tcttttttct | cctcagcctc | agaatttggc | acatgccctt | 2040 |
| ccttctttca | ggaacttctc | caacatctct | gcctggctcc | atcatatcat | aaaggtccca | 2100 |
| cttcaaatgc | agtcactacc | gtttcaggat | atgcactttc | tttctttttt | gttttttgtt | 2160 |
| ttttttaagt | caaagcaa | ttcttgagag | agtaaagaaa | taaacgaatg | actactgcat | 2220 |
| aggcagagca | gccccgaggg | ccgctgggtg | ttccttttat | ggttatttct | tgatgatatg | 2280 |
| ttaaacaagt | tttggtattat | ttatgccttc | tcttttttagg | ccatataggg | taactttctg | 2340 |
| acattgccat | ggcatgtttc | ttttaattta | atttactgtt | accttaaatt | caggggtaca | 2400 |
| cgtacaggat | atgcagggtt | gttttatagg | taaaagtgtg | ccatgggttt | aatgggtttt | 2460 |
| tttttcttg | taaagtgtt | taagtttctt | gtttactctg | gatattggcc | tttgtcagaa | 2520 |
| gaatagattg | gaaaatcttt | ttcccattct | gtagattgtc | tttcgctctg | atggtagttt | 2580 |
| cttttgctga | gcaggagctc | tttagtttaa | ttagattcca | ttgggtcaatt | tttgcttttg | 2640 |
| ctgcaattgc | ttttcacgct | ttcatcatga | aatctgtgcc | cgtgtttata | tcatgaatag | 2700 |

| | | | | | | |
|------------|-------------|-------------|------------|------------|------------|------|
| tattgccttg | atTTTTTtct | aggctTTTTta | tagtttgggg | TTTTtcattt | aagtctctaa | 2760 |
| tccatccgga | gttaattttg | gataaggtat | aaggaaggag | tccagtttca | TTTTtcagca | 2820 |
| tatggctagc | cagttctccc | ccatcattta | ttaaattgaa | aatcctttcc | ccattgcttg | 2880 |
| cttttgtcag | gtttctaaaa | gacagatggg | tgtaggtaca | atatgcagtt | tcttcaagtc | 2940 |
| atataatacc | atctgaaatc | tcttattaat | tcatttcttt | tagtatgtat | gctggctctc | 3000 |
| tctgctcact | atagtgaggg | caccattagc | cagagaatct | gtctgtctag | ttcatgtaag | 3060 |
| attctcagaa | ttaagaaaaa | tggatggcat | atgaatgaaa | cttcatggat | gacatatgga | 3120 |
| atctaattgt | tatttgttga | attaatgcat | aagatgcaac | aagggaagg | ttgacaactg | 3180 |
| cagtgataac | ctgggtattga | tgatataaga | gtctatagat | cacagtagaa | gcaataatca | 3240 |
| tggaaaacaa | ttggaaatgg | ggaacagcca | caaacaagaa | agaatcaata | ctaccaggaa | 3300 |
| agtgactgca | ggtcactttt | cctggagcgg | gtgagagaaa | agtggaagtt | gcagtaactg | 3360 |
| ccgaattcct | ggttggctga | tgaaaa | | | | 3386 |

<210> 7
 <211> 2838
 <212> DNA
 <213> Homo sapiens

| | |
|-------------|-------------|
| <400> 7 | |
| gtgtaagaag | gttcctgagg |
| ctctacagat | agggagcact |
| tgtttatttt | acaaagagta |
| 60 | |
| catgggaaaa | gagaaaagca |
| aggggaaccgt | acaaggcatt |
| aatgggtgac | acttctacct |
| 120 | |
| ccaaagagca | gaaattatca |
| agaactcttg | atacaaagat |
| aatactggca | ctgcagaggt |
| 180 | |
| tctaggaag | acctcaacc |
| taagacatag | cctcaagggt |
| aatagctacg | attaaactcc |
| 240 | |
| aacaattact | gagaaaataa |
| tgtgctcaat | taaaggcata |
| atgattactc | aagacaatgt |
| 300 | |
| tatgttgtct | ttcttctctc |
| ttcctttgcc | tgacacattgt |
| agcccataat | actatacccc |
| 360 | |
| atcaagtgtt | cctgctccaa |
| gaaatagctt | cctcctctta |
| cttgccccag | aacatctctg |
| 420 | |
| taaagaattt | cctcttatct |
| tcccatattt | cagtcaagat |
| tcattgctca | cgtattactt |
| 480 | |
| gtgacctctc | ttgaccccag |
| ccacaataaa | cttctctata |
| ctacccaaaa | aatctttcca |
| 540 | |
| aaccctcccc | gacaccatat |
| ttttatatatt | ttcttatatta |
| tttcatgcac | acacacacac |
| 600 | |
| tccgtgcttt | ataagcaatt |
| ctgcctattc | tctaccttct |
| tacaatgcct | actgtgcctc |
| 660 | |
| atattaaatt | catcaatggg |
| cagaaagaaa | atatttatct |
| aagaaaacag | tgaatgaatg |
| 720 | |
| aacgaatgag | taaatgagta |
| aatgaaggaa | tgattattcc |
| ttgctttaga | acttctggaa |
| 780 | |
| ttagaggaca | atattaataa |
| taccatcgca | cagtgtttct |
| ttgttggtta | tgctacaaca |
| 840 | |
| tacaaagagg | aagcatgcag |
| taaacaaccg | aacagttatt |
| tcctttctga | tcataggagt |
| 900 | |

| | | | | | | |
|-------------|------------|------------|-------------|-------------|-------------|------|
| aatatTTTTT | tccttgagca | catttttGCC | ataggtaaaa | ttagaaggat | ttttagaact | 960 |
| ttctcagttg | tatacatTTT | taaaaatctg | tattatatgc | atgttgatta | atTTTaaact | 1020 |
| tacttgaata | cctaaacaga | atctgttggt | tccttggtgt | tgaaagtgct | ttcacagtaa | 1080 |
| ctctgtctgt | actgccagaa | tatactgaca | atgtgttata | gttaactgtt | ttgatcacao | 1140 |
| cattttgaat | tgactggcag | cagaagctct | ttttatatcc | atgtgttttc | cttaagtcac | 1200 |
| tatacatagt | aggcatgaga | ctctttatac | tgaataagat | atTTtagaac | cactgggttta | 1260 |
| catatcagaa | gcagagctac | tcagggcatt | ttggggaaga | tcactttcac | attcctgagc | 1320 |
| atagggaagt | tctcataaga | gtaagatatt | aaaaggagat | acttgtgtgg | tattcgaaag | 1380 |
| acagtaagag | agattgtaga | ccttatgata | ttgataggga | aaacaaacta | cattcctttc | 1440 |
| tccaaaagtc | aaaaaaaaag | agcaaatata | gcttactata | ccttctattc | ctacaccatt | 1500 |
| agaagtagtc | agtgagtcta | ggcaagatgt | tggccctaaa | aatccaaata | ccagagaatt | 1560 |
| catgagaaca | tcacctggat | gggacatgtg | ccgagcaaca | caattactat | atgctaggca | 1620 |
| ttgctatctt | catattgaag | atgaggaggt | caagagatga | aaaaagactt | ggcaccttgt | 1680 |
| tgttatatta | aaattatttg | ttagagtaga | gcttttgtaa | gagtctagga | gtgtgggagc | 1740 |
| taaatgatga | tacacatgga | cacaaagaat | agatcaacag | acaccagggc | ctacttgagg | 1800 |
| gttgaggggtg | ggaagaggga | gacgatgaaa | aagaacctat | tgggtattaa | gttcactcact | 1860 |
| gagtgatgaa | ataatctgta | catcaagacc | cagtgatatg | caatttacct | atataacttg | 1920 |
| tacatgtacc | cccaaattta | aaataaagtt | aaaacaaagt | ataggaatgg | aattaattcc | 1980 |
| tcaagatttg | gctttaattt | tatttgataa | tttatcaaat | ggttgTTTTT | cttttctcac | 2040 |
| tatggcgttg | ctttataaac | tatgttcagt | atgtctgaat | gaaaggggtg | gtgtgtgtgt | 2100 |
| gaaagagagg | gagagaggaa | gggaagagag | gacgtaataa | tgtgaatttg | agttcatgaa | 2160 |
| aatttttcaa | taaaataatt | taatgtcagg | agaattaagc | ctaatagtct | cctaaatcat | 2220 |
| ccatctcttg | agcttcagag | cagtcctctg | aattaatgcc | tacatgtttg | taaaggggtg | 2280 |
| tcagactgaa | gccaagattc | tacctctaaa | gagatgcaat | ctcaaattta | tctgaagact | 2340 |
| gtacctctgc | tctccataaa | ttgacaccat | ggcccactta | atgagggttaa | aaaaaagcta | 2400 |
| attctgaatg | aaaatctgag | cccagtggag | gaaatattaa | tgaacaagg | gcagactgaa | 2460 |
| atataaaatt | tctgtaataa | ttatgcatat | acttttagcaa | agttctgtct | atgttgactt | 2520 |
| tattgctttt | ggtaagaaat | acaacttttt | aaagtgaact | aaactatcct | atttccaaac | 2580 |
| tattttgtgt | gtgtgcgggt | tgtttctatg | ggttctgggt | ttcttgagag | atTTTTtatt | 2640 |
| catttttaatt | aattaattct | gagagctgct | gagttgtgtt | tactgagaga | ttgtgtatct | 2700 |

| | |
|--|------|
| gcgagagaag tctgtagcaa gtagctagac tgtgcttgac ctaggaacat atacagtaga | 2760 |
| ttgctaaaaat gtctcacttg gggaatttta gactaaacag tagagcatgt ataaaaatac | 2820 |
| tctagtcaag tgctgctt | 2838 |

<210> 8
 <211> 6
 <212> DNA
 <213> Homo sapiens

| | |
|---------|---|
| <400> 8 | 6 |
| ttaggg | |

<210> 9
 <211> 1884
 <212> DNA
 <213> Homo sapiens

| | |
|--|------|
| <400> 9 | |
| gtatacatat atacctgaat atggaatcaa atatttttct aagatgaaac agtcatgatt | 60 |
| tatttcaaat aggtacggat aagtagatat tgaggtaagc attaggtctt atattatgta | 120 |
| acactaatct attactgctg tgaaactgtg gtctttatga aaattgtttt cactacacta | 180 |
| ttgagaaaatt aagagataat ggcaaaagtc acaaagagta tattcaaaaa gaagtatagc | 240 |
| actttttcct tagaaaccac tgctaactga aagagactaa gatttgtccc gtcaaaaatc | 300 |
| ctggacctat gcctaaaaca catttcacaa tccctgaact tttcaaaaat tggtagatgc | 360 |
| tttagcttta aactacaggc ctactggag ctacagacaa gaaggtaaaa aacggctgac | 420 |
| aaaagaagtc ctggtatcct ctatgatggg agaaggaaac tagctaaagg gaagaataaa | 480 |
| ttagagaaaa actggaatga ctgaatcggg acaaggcaaa ggctataaaa aaaattaagc | 540 |
| agcagtatcc tcttgggggc cccttcccca cactatctca atgcaaatat ctgtctgaaa | 600 |
| cgggcccttg ctaaaactcca cccatgggtt ggccagcctt gccttgacca atagccttga | 660 |
| caaggcaaac ttgaccaata gtcttagagt atccagttag gccagggggc ggcggtggc | 720 |
| tagggatgaa gaataaaagg aagcaccctt cagcagttcc acacactcgc ttctggaacg | 780 |
| tctgagatta tcaataagct cctagtccag acgccatggg tcatttcaca gaggaggaca | 840 |
| aggctactat cacaagcctg tggggcaagg tgaatgtgga agatgctgga ggagaaaccc | 900 |
| tgggaaggta ggctctggtg accaggacaa gggaggggaag gaaggaccct gtgcctggca | 960 |
| aaagtccagg tcgcttctca ggatttgtgg caccttctga ctgtcaaact gttcttgtca | 1020 |
| atctcacagg ctccctggtg tctacccatg gaccagagg ttctttgaca gctttggcaa | 1080 |
| cctgtcctct gcctctgcca tcatgggcaa ccccaaagtc aaggcacatg gcaagaaggt | 1140 |
| gctgacttcc ttgggagatg ccataaagca cctggatgat ctcaagggca cctttgccca | 1200 |

| | | | | | | |
|------------|--------------|-------------|-------------|------------|------------|------|
| gctgagtga | ctgcactgtg | acaagctgca | tgtggatcct | gagaacttca | aggtgagtcc | 1260 |
| aggagatg | ttcagcactgt | tgccttttagt | ctcgaggcaa | cttagacaac | tgagtattga | 1320 |
| tctgagcaca | gcaggggtgtg | agctgtttga | agatactggg | gttgggagt | aagaaactgc | 1380 |
| agaggactaa | ctgggctgag | accagtggtc | aatgttttag | ggcctaagga | gtgcctctga | 1440 |
| aaatctagat | ggacaacttt | gactttgaga | aaagagaggt | ggaaatgagg | aaaatgactt | 1500 |
| ttctttatta | gatttcggta | gaaagaactt | tcacctttcc | cctatttttg | ttattcggtt | 1560 |
| taaaacatct | atctggaggc | aggacaagta | tggtcgttaa | aaagatgcag | gcagaaggca | 1620 |
| tatattggct | cagtcaaagt | ggggaacttt | ggtggccaaa | catacattgc | taaggctatt | 1680 |
| cctatatcag | ctggacacat | ataaaatgct | gctaattgctt | cattacaaac | ttatatcctt | 1740 |
| taattccaga | tgggggcaaa | gtatgtccag | gggtgaggaa | caattgaaac | atttgggctg | 1800 |
| gagtagat | tttgaaagtcag | ctctgtgtgt | gtgtgtgtgt | gtgtgtgtgt | cagcgtgtgt | 1860 |
| ttcttttaac | gtcttcagcc | taca | | | | 1884 |

<210> 10
 <211> 28
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence:PCR primer

| | |
|--------------------------------|----|
| <400> 10 | |
| aagaccagat agtacagggc ctggctac | 28 |

<210> 11
 <211> 28
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence:PCR primer

| | |
|--------------------------------|----|
| <400> 11 | |
| aagattattc aaggttacta tgaacacc | 28 |

<210> 12
 <211> 38
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence:PCR primer

| | |
|---|----|
| <400> 12 | |
| tgctaattgct tcattctagaa acttatatcc tttaattc | 38 |

<210> 13
 <211> 35
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 13
 tttccactcg agccaaccag gaattcggca gttac 35

 <210> 14
 <211> 38
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 14
 gtgtaagaag gttctctaga ggctctacag atagggag 38

 <210> 15
 <211> 39
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 15
 aagcagcact tgactcgagt atttttatac atgctctac 39

 <210> 16
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 16
 gtatacatatg atacctgaat atg 23

 <210> 17
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 17
 tgtaggctga agacgttaaa agaaacac 28

<210> 18
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Primer for RT-PCR

 <400> 18
 gatgccataa agcacctgga tg 22

 <210> 19
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Primer for RT-PCR

 <400> 19
 ttgcagaata aagcctatcc ttga 24

 <210> 20
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Primer for RT-PCR

 <400> 20
 tcacccacac tgtgcccac tacga 25

 <210> 21
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:Primer for RT-PCR

 <400> 21
 cagcgaacc gctcattgcc aatgg 25

 <210> 22
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:PCR primer

 <400> 22
 catcgtctct ctgaaaaatc g 21

 <210> 23

<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<400> 23
aggaaacagc aaaactgtga c

21

1

1/22